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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|----------------------------------------------------------------------------------------------------------------------|-------------|----------------------|-------------------------|------------------|
| 09/837,687 | 04/18/2001 | Paolo Palmas | 105345 | 7848 |
| 23490 | 7590 | 01/09/2006 | EXAMINER | |
| JOHN G TOLOMEI, PATENT DEPARTMENT UOP LLC 25 EAST ALGONQUIN ROAD P O BOX 5017 DES PLAINES, IL 60017-5017 | | | NECKEL, ALEXA DOROSHENK | |
| | | ART UNIT | | PAPER NUMBER |
| | | | | 1764 |
| DATE MAILED: 01/09/2006 | | | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | |
|------------------------------|------------------------|---------------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 09/837,687 | PALMAS ET AL. |
| | Examiner | Art Unit |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 06 October 2005.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-19 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

| | |
|--------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ . |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____ . |

DETAILED ACTION

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-19 are rejected under 35 U.S.C. 102(e) as being anticipated by Palmas (6,063,263).

The applied reference has a common inventor with the instant application.

Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

With respect to claims 1 and 8, Palmas discloses a reactor vessel comprising:
a catalyst nozzle (16) for delivering catalyst to said reactor vessel (10);
a feed nozzle (17) for delivering feed to said reactor vessel (10), said feed nozzle joining said catalyst nozzle at a joint (see fig. 1 and 3) proximate to a work point (18 or 18') at which said catalyst contacts said feed to convert said feed to yield product vapor (col. 4, line 61- col. 5, line 25);

a transport conduit (15') having an inlet (39) for receiving said product vapor and entrained catalyst (col. 7, lines 33-34) and an outlet (31), said inlet (39) being disposed vertically higher than said joint (near 18') between said feed nozzle (17) and said catalyst nozzle (16) (see fig. 3); and

a cyclone (22 of Niewiedzial) having an inlet (20 of Niewiedzial) directly communicating with said outlet arms (30 of Palmas/16 of Niewiedzial) of said transport conduit (15 of Palmas/12 of Niewiedzial), communicating with a vapor outlet (24 of Niewiedzial) extending from the vessel and a dipleg (23 of Niewiedzial) extending downwardly.

It is noted that Palmas has incorporated Niewiedzial (5,565,020) by reference for the details of the arrangement of arms and separation devices (col. 6, lines 27-31 of Palmas).

With respect to claims 2 and 9, Palmas further discloses a stripping section (14) at the base of reactor vessel for stripping product vapors from said catalyst (col. 5, lines 46-48).

With respect to claims 3 and 10, Palmas further discloses wherein said stripping section (14) includes a series of trays/grids (25) and stripping medium is injected (23) into said stripping section (col. 5, lines 48-53).

With respect to claims 4 and 11, Palmas further discloses wherein said catalyst nozzle (16) includes a slot (114) for generating a curtain of catalyst (col. 8, lines 18-21 and lines 40-42).

With respect to claims 5 and 12, Palmas further discloses wherein said feed nozzle (17) includes a feed contactor (115) for injecting feed into said curtain of catalyst (col. 8, lines 14-21).

With respect to claims 6 and 13, Palmas further discloses wherein said catalyst nozzle (16) includes a funnel section (113) (see fig. 5) that dispenses through said slot (114) (col. 8, lines 18-21).

With respect to claim 7, Palmas further discloses wherein said inlet (39) faces away from said work point (18') (col. 7, lines 27-30).

With respect to claim 14, Palmas further discloses including a heat nozzle (27) for delivering hot catalyst to said stripping section (14) (col. 5, lines 58-60).

With respect to claim 15, Palmas discloses a process for cracking a heavy hydrocarbon feed to a light hydrocarbon product (col. 1, lines 31-37) comprising:

delivering catalyst to a reactor vessel (10) through a catalyst nozzle (16);

delivering heavy hydrocarbon feed to said reactor vessel (10) through a feed nozzle (17), said feed nozzle joining said catalyst nozzle at a joint (near 18' in fig. 3);

contacting said catalyst and said heavy hydrocarbon feed at a work point (18') proximate to said joint to convert said heavy hydrocarbon feed to light hydrocarbon product vapor (col. 4, line 61- col. 5, line 25);

withdrawing said product vapor and entrained catalyst (col. 7, lines 33-34) through an inlet (39) in a transport conduit (15'), said inlet (30) being disposed vertically higher than said joint (near 18') between said feed nozzle (17) and said catalyst nozzle (16) (see fig. 3); and

transporting said light hydrocarbon product vapor from said inlet (39) through an outlet (30 of Palmas/16 of Niewiedzial) in said transport conduit directly to a cyclone (22 of Niewiedzial) and separating said entrained catalyst from said light hydrocarbon product vapor in said cyclone (through vapor outlet 24 and catalyst outlet/dipleg 23 of Niewiedzial).

It is noted that Palmas has incorporated Niewiedzial (5,565,020) by reference for the details of the arrangement of arms and separation devices (col. 6, lines 27-31 of Palmas).

With respect to claims 16 and 17, Palmas further discloses wherein catalyst particles recovered by said cyclone are returned to the collection/stripping zone (14) at location (32) (col. 6, lines 37-42), but does not disclose an actual means to achieve this catalyst transport.

With respect to claim 18, Palmas further discloses expelling said lighter hydrocarbon product vapor from an outlet (31) of said cyclone (col. 6, lines 34-37).

With respect to claim 19, Palmas further discloses generating a curtain of catalyst before said catalyst is contacted with said heavy hydrocarbon feed (col. 8, lines 17-39).

Response to Arguments

3. Applicant's arguments with respect to claims 1-19 have been considered but are moot in view of the new ground(s) of rejection.

Applicant argues that Palmas does not disclose a cyclone having an inlet directly communicating with the outlet of the transport conduit.

The examiner respectfully disagrees, as discussed above, in view of the incorporation by reference of the Niewiedzial patent by Palmas. The previous rejections are withdrawn in view of the newly stated rejections above.

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexa D. Neckel whose telephone number is 571-272-1446. The examiner can normally be reached on Monday - Thursday from 9:00 AM - 7:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Calderola can be reached on 571-272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Alexa D. Neckel
Primary Examiner
Art Unit 1764

December 21, 2005


ALEXA DOROSHENK NECKEL
PRIMARY EXAMINER